

August 8, 2017

Dear Dr. Milne,

Thank you for your July 17, 2017 letter on the Budd Inlet TMDL and your interest in the effort to improve water quality in Budd Inlet. I encourage you to attend the Deschutes Advisory Group (DAG) meetings to receive updates on the TMDL. Many of the topics and questions you included in your letter have already been discussed in the DAG meetings. This group provides a venue to ask and answer questions and is an effective opportunity for stakeholders to engage in the process.

There are several conclusions in your recent letter that I feel are important to address. I plan to discuss these with Bob Wubbena and other CLIPA members at our meeting in August. I feel that having an in-person conversation is a more productive way to provide clarity regarding these questions on the TMDL. Since you are unable to meet I will do my best to clarify a few key points.

- First, cell 31 (please see attachment A for a map with labeled cells) is no different than other cells – *except* in the fact that our model shows it has the lowest dissolved oxygen (DO) concentration in Budd Inlet. DO varies throughout Budd Inlet and we need to meet the standards throughout the Inlet. To meet standards throughout the Inlet we need to ensure we include in our analysis the area where DO is lowest.
- We do average both vertically (through the water column) and horizontally (into larger grid cells). However, as indicated in the water quality standards in WAC 173-201A-210(1)(d), a violation occurs if the daily minimum DO dips below the standards. It does not need to occur for a full day.
- The water quality standards in WAC 173-201A-210(1)(d) establish two relevant numeric criteria for Budd Inlet of 6.0 mg/L and 5.0 mg/L. The boundary between the 6.0 and 5.0 mg/L standard is located near Priest Point Park and has not been changed. Specifically, as listed in the water quality standards in WAC 173-201A-612, it is at 47°04' N. Since this division crosses through the northern portion of cells 27, 28, and 29, we chose to include all of these cells in the 5.0 mg/L category (see red line in attachment A).
- As I mentioned in my previous email and has been discussed at DAG meetings over the last year, originally, our model showed that under natural conditions the standard could not be met and that the TMDL would need to prevent impacts greater than 0.2 mg/L. However, our modeling is an iterative process and several improvements have been made to the model. I detailed some of these improvements in my last letter to you and they have been discussed at DAG meetings. The model now shows that under natural conditions the standard can be met and so we must meet the 5/6 mg/L standard. This language can also be found in WAC 173-201A-210(1)(d).
- You mention that you feel that the intent of the TMDL is to enable the public to compare Budd Inlet with and without the dam and imply that Ecology has intentionally tried to incriminate Capitol Lake (page 3 paragraph 4 of your letter). As we have defined at the DAG meetings, the intention of the TMDL is to determine the quantity of DO depletion from all sources in order to meet water quality standards. This is why the appendix that I sent you includes WWTPs, nonpoint, and external sources, in addition to Capitol Lake. We treat Capitol Lake no differently than the other sources – our goal is to quantify each source's contribution to DO depletion and then determine an allowable allocation for each source so that water quality standards will be met.

Thank you for providing me more information on the origin of your figures. I still have not found the origins for figure 3A. Additionally, this figure only addresses nitrogen loads and none of the other critical factors contributing towards DO depletion in Budd Inlet. I direct you to our 2015 Supplemental

Monitoring Report (pages 33 – 39) which describe the impact of the Lake for a more detailed description of these processes.

In terms of your request for additional modeling there are two elements we will discuss with our modeling team:

- 1) Including the modeled area south of the 5th Avenue Bridge in our output graphics (especially when the lake is not present).
- 2) Modeling the existing condition without the lake.

Our modeling team has no capacity for additional work through the end of August and we'll need to determine if and when these scenarios could be built into our current work plan.

The TMDL will set an allocation of DO depletion that all sources, including DES, must adhere to. The TMDL does not dictate to DES any specific approach or endorse any specific plan or proposal. DES must determine how it will meet the assigned allocation.

In response to your final requests on page 6, the two appendixes to my last letter are not from a report. We presented versions of these figures at DAG meetings. What was enclosed in my last letter are the most recent versions. Again, I encourage you to attend these meetings so you receive these updates.

Attached to this email is the model output I used to create Appendix 1 in my June 29th letter. The model inputs are more complicated and comprise a series of files describing water quality, flow, and scalars derived from the larger Salish Sea Model. These files are in various text formats and there are quite a large number of them. If this is what you are interested in I can look into acquiring them, but it will likely take some time and we'll need to figure out an appropriate delivery method. If this is something you would like to pursue, I suggest we schedule a follow up phone call to discuss.

Again, thank you for your interest in the Budd Inlet TMDL. I hope the information I've provided is helpful.

Leanne

Attachment A: Map of aggregated model grid cells and Water Quality Standards in Budd Inlet.



